The following Listing of the Claims will replace all prior versions and all prior listings of the claims in the present application:

1. (Previously Presented) A metal oxide material comprising a first metallic oxide and a second metallic oxide, wherein the first metallic oxide forms a central nanostructural spine having a linear axis and at least three second metallic oxides terminally attached between a first end and a second end of the central nanostructural spine forming three-dimensional periodically oriented linear nanostructural rods, the linear axes of the nanostructural rods being oriented substantially non-parallel to the linear axis of the central nanostructural spine of the first metallic oxide to confer a symmetric nanostructural morphology to the metal oxide material.
2. (Original) The metal oxide material of claim 1, wherein the symmetric nanostructural morphology has a pre-determined symmetry.
3. (Previously Presented) The metal oxide material of claim 1, wherein the first metallic oxide is selected from the group consisting of ZnO, In_2O_3, and combinations thereof.
4. (Previously Presented) The metal oxide material of claim 1, wherein the symmetric nanostructural morphology is selected from the group consisting of a nanobridge, nanonail, nanoribbon, nanowire, nanowall, nanobrush and combinations thereof.
5. (Original) The metal oxide material of claim 1, wherein the metallic oxide further comprises a dopant material.
6. (Previously Presented) The metal oxide material of claim 5, wherein the dopant material is tin.
7. (Canceled)
8. (Previously Presented) The metal oxide material of claim 1, further comprising a third metallic oxide.
9. (Original) The metal oxide material of claim 8, wherein the metallic oxides are selected from the group consisting of ZnO, GeO_2 and In_2O_3.
10. (Original) The metal oxide material of claim 1, with a pre-determined symmetry consisting essentially of 2-fold symmetry, 4-fold symmetry or 6-fold symmetry or combinations thereof.

11. (Previously Presented) The metal oxide material of claim 1, wherein the central nanostructural spine consists essentially of In_2O_3.

12. (Previously Presented) The metal oxide material of claim 1, wherein the second metallic oxides consists essentially of ZnO, GeO_2 or MgO.

13. (Previously Presented) The metal oxide material of claim 1, wherein the central nanostructural spine has a length ranging between about 0.01 and about 100 µm.

14. (Previously Presented) The metal oxide material of claim 1, wherein the central nanostructural spine has a length ranging between about 1 and about 20 µm.

15. (Previously Presented) The metal oxide material of claim 1, wherein the central nanostructural spine has a diameter ranging between about 10 and about 1000 nm.

16. (Previously Presented) The metal oxide material of claim 1, wherein the central nanostructural spine has a diameter ranging between about 50 and about 500 nm.

17. (Previously Presented) The metal oxide material of claim 1, wherein the nanostructural rods comprising the second metallic oxides have a length ranging between about 0.01 and about 100 µm.

18. (Previously Presented) The metal oxide material of claim 1, wherein the nanostructural rods comprising the second metallic oxides have a length ranging between about 0.2 and about 5 µm.

19. (Previously Presented) The metal oxide material of claim 1, wherein the nanostructural rods comprising the second metallic oxides have a diameter ranging between about 10 and about 1000 nm.

20. (Previously Presented) The metal oxide material of claim 1, wherein the nanostructural rods comprising the second metallic oxides have a diameter ranging between about 20 and about 200 nm.

21. (Previously Presented) The metal oxide material of claim 1, wherein the nanostructural rods comprising the second metallic oxides are substantially orthogonal to the linear axis of said central nanostructural spine.

22. (Previously Presented) The metal oxide material of claim 1, wherein the nanostructural rods comprising the second metallic oxides are slanted to the central nanostructural spine so as to form a finite, non-orthogonal angle with the linear axis of said central nanostructural spine.

23. (Previously Presented) The metal oxide material of claim 1, wherein at least one of the metallic oxides further comprises a dopant material.

24. (Original) The metal oxide material of claim 23, wherein the dopant material is tin.

25. (Canceled)

26. (Canceled)

27. (Canceled)

28. (Canceled)

29. (Canceled)

30. (Canceled)

31. (Canceled)

32. (Canceled)

33. (Canceled)

34. (Canceled)

35. (Canceled)

36. (Canceled)

37. (Canceled)

38. (Canceled)

39. (Canceled)

40. (Canceled)

41. (Canceled)

42. (Canceled)

43. (Canceled)

44. (Canceled)

45. (Canceled)

46. (Canceled)

47. (Canceled)

48. (Canceled)

49. (Canceled)

50. (Canceled)

51. (Canceled)

52. (Canceled)

53. (Canceled)

54. (Canceled)

55. (Previously Presented) A metal oxide material comprising:

a central three-dimensional nanostructure having a linear axis formed from at least one metallic oxide; and

at least three three-dimensional nanostructures formed from at least one metallic oxide, wherein a distal end of each of the three-dimensional nanostructures is attached to the central three-dimensional nanostructure between a first end and a second end of the central three-dimensional nanostructure.

56. (Previously Presented) The metal oxide material of claim 55, wherein the metallic oxide is selected from the group consisting of ZnO, In_2O_3, GeO_2, MgO and combinations thereof.

57. (Previously Presented) The metal oxide material of claim 55, wherein the metallic oxide further comprises a dopant material.

58. (Previously Presented) The metal oxide material of claim 57, wherein the dopant material is selected from the group consisting of tin and germanium.

59. (Previously Presented) The metal oxide material of claim 55, wherein the central three-dimensional nanostructure is formed from In_2O_3 and the plurality of three-dimensional nanostructures is formed from ZnO.

60. (Previously Presented) The metal oxide material of claim 55, wherein the three-dimensional nanostructure has a morphology selected from the group consisting of a nanoribbon, nanowire, nanobelt, nanocrystal, nanowall and combinations thereof.

61. (Previously Presented) The metal oxide material of claim 55, wherein the central three-dimensional nanostructure has a length ranging between about 0.01 and about 100 μm.

62. (Previously Presented) The metal oxide material of claim 55, wherein the central three-dimensional nanostructure has a diameter ranging between about 10 and about 1000 nm.

63. (Previously Presented) The metal oxide material of claim 55, wherein the three-dimensional nanostructures have a length ranging between about 0.01 and about 100 μm.

64. (Previously Presented) The metal oxide material of claim 55, wherein the three-dimensional nanostructures have a diameter ranging between about 10 and about 1000 nm.

65. (Previously Presented) The metal oxide material of claim 55, wherein the three-dimensional nanostructures are aligned in a direction either perpendicular to the linear axis of the central three-dimensional nanostructure or at a finite non-perpendicular angle.

66. (Previously Presented) The metal oxide material of claim 55 for use in a microelectronic device.

67. (Previously Presented) The metal oxide material of claim 66, wherein the microelectronic device is selected from the group consisting of field emission device, photovoltaic device, optoelectronic device, blue optical device, ultra-violet optical device, transparent conductive film, transparent electronic imaging shielding device, transparent field effect transistor, supercapacitor, fuel cell, nanocomposite, data-storage device, biochemical sensor, chemical sensor, gas sensor, solar cell, photocatalysis device, bulk acoustic waves device, window heating device, and light emitting diode.

68. (Previously Presented) A metal oxide material comprising:
a first metallic oxide in the form of a three-dimensional linear nanostructure; and at least three second metallic oxides in the form of a three-dimensional linear nanostructure having an end attached to the first metallic oxide between a first end and a second end of the first metallic oxide and extending in a lateral direction from the first metallic oxide.

69. (Previously Presented) The metal oxide material of claim 68, wherein the first metallic oxide and the second metallic oxides are selected from the group consisting of ZnO, In_2O_3, GeO_2, MgO and combinations thereof.

70. (Previously Presented) The metal oxide material of claim 68, wherein the metallic oxide further comprises a dopant material.

71. (Previously Presented) The metal oxide material of claim 70, wherein the dopant material is selected from the group consisting of tin and germanium.

72. (Previously Presented) The metal oxide material of claim 68, wherein the three-dimensional linear nanostructure has a morphology selected from the group consisting of a nanobridge, nanonail, nanoribbon, nanowire, nanowall, nanobrush and combinations thereof.

73. (Previously Presented) The metal oxide material of claim 68, wherein the at least three second metallic oxides are aligned in a direction either perpendicular to the first metallic oxide or at a finite non-perpendicular angle.

74. (Previously Presented) The metal oxide material of claim 68 for use in a microelectronic device.

75. (Previously Presented) The metal oxide material of claim 74, wherein the microelectronic device is selected from the group consisting of field emission device, photovoltaic device, optoelectronic device, blue optical device, ultra-violet optical device, transparent conductive film, transparent electronic imaging shielding device, transparent field effect transistor, supercapacitor, fuel cell, nanocomposite, data-storage device, biochemical sensor, chemical sensor, gas sensor, solar cell, photocatalysis device, bulk acoustic waves device, window heating device, and light emitting diode.

76. (Previously Presented) The metal oxide material of claim 68, wherein the first metallic oxide has a length ranging between about 0.01 and about 100 μm.

77. (Previously Presented) The metal oxide material of claim 68, wherein the first metallic oxide has a diameter ranging between about 10 and about 1000 nm.

78. (Previously Presented) The metal oxide material of claim 68, wherein each of the at least three second metallic oxides have a length ranging between about 0.01 and about 100 μm.

79. (Previously Presented) The metal oxide material of claim 68, wherein each of the at least three second metallic oxides have a diameter ranging between about 10 and about 1000 nm.

80. (Previously Presented) A metal oxide material comprising a plurality of three-dimensional nanostructures formed from a first metallic oxide and at least three second metallic oxides having an end attached to the first metallic oxide between a first end and a second end of the first metallic oxide, wherein the plurality of three-dimensional nanostructures are interconnected to form a network.

81. (Previously Presented) The metal oxide material of claim 80, wherein the network of the plurality of three-dimensional nanostructures has a pore size ranging from about 200 nm to about 1 μm.

82. (Previously Presented) The metal oxide material of claim 80, wherein the plurality of three-dimensional nanostructures are parallel to each other.

83. (Previously Presented) The metal oxide material of claim 80, wherein the plurality of three-dimensional nanostructures are arranged in a quasi-hexagonal pattern.

84. (Previously Presented) The metal oxide material of claim 80, wherein the plurality of three-dimensional nanostructures form angles that are multiples of about 30°.